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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/080,672 | 02/25/2002 | Katsutoshi Misuda | 03500.016227 | 8154 |

5514 7590 06/10/2004

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| EXAMINER |
|---|
| FERGUSON, LAWRENCE D |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1774 | |

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

CF

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/080,672 | MISUDA, KATSUTOSHI | |
| | Examiner | Art Unit | |
| | Lawrence D Ferguson | 1774 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *22 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-7 and 9-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. This action is in response to the amendment mailed March 22, 2004.

Claims 1, 9-10 and 12 were amended rendering claims 1-7, 9-13 pending with claim 13 withdrawn as a non-elected invention.

### *RESPONSE TO REQUEST FOR RECONSIDERATION*

2. Applicant's election with traverse of method of making recording medium (Group II) is acknowledged. Applicant traverses on the grounds that all of the claims could be searched by one Examiner without undue effort and it is not mandatory to make a restriction requirement in every possible situation. The search of the 2 classes and subclasses would entail the requisite serious burden, as the search for method of making is not the same as the article search. Additionally, the steps used in the method claims would not be expected to appear in the class/subclass of the product claims. Every recording medium is not made using the same method steps.

The requirement is deemed proper and is therefore made **FINAL**.

### *Claim Rejections – 35 USC § 103(a)*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-7 and 9-12, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose et al. (U.S. 6,203,899) in view of EP 1048480 A1 (EP '480).

Hirose discloses an ink jet recording medium comprising a base material, ink receiving layer provided on the base material and a surface layer (dye fixing layer) provided on the ink receiving layer (column 2, lines 40-60) where the particles making up the surface layer fixes the coloring material component to the surface layer (column 3, lines 40-45 and column 4, lines 60-65). The ink receiving layer is equivalent to the claimed light reflecting layer because it contains light reflecting material, such as aluminum. The reference discloses the ink receiving layer includes pigments such as silica and alumina which are used singly or in combination, where it is preferable to use at least one selected from silica and alumina (column 5, lines 50-67). The surface layer of Hirose includes alumina hydrate (column 3, line 52 through column 4, line 12) where the particles are within a range of from 0 to 100 parts by weight (column 5, lines 34-40) and the surface layer has a 20 glossiness of 20% or higher (column 5,lines 45-49). Instant claim 12 is directed to how an image is made using recording of the recording medium. The *process* by which an image or recording medium are prepared is not dispositive of the issue of patentability of the instant *article* claims. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not

depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966. Hirose does not disclose barium sulfate.

EP '480 discloses an ink jet recording material comprising a carrier that has an underlayer and overlayer (dye-fixing layer), where the underlayer comprises barium sulfate and alumina or silicic material (abstract). The light reflecting layer is equivalent to the underlayer because the underlayer comprises light reflecting material, such as aluminum. EP '480 discloses the material is glossy. Hirose and EP '480 are analogous art because they are both directed to ink jet recording material. It would have been obvious to one of ordinary skill in the art to include barium sulfate in the ink receiving layer of Hirose to improve color density and provide good resistance to wiping (abstract). Neither reference teaches a refractive index of the recording medium, as in instant claim 6, this feature is directly related to the specific pigmented particles used. Since the references use the same barium sulfate in the underlayer and the same dye-fixing layer, respectively, the refractive index of the recording material would be expected to be the same as Applicant claims. Neither reference discloses the claimed content of particles having an average pigment particle size as in instant claims 1 and 11. Hirose does not show that the recording medium has the same particle sizes as instantly claimed. However, such particle sizes are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the particle sizes, absent a showing of unexpected results, it is obvious to modify the conditions of a

composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. particle sizes) fails to render claims patentable in the absence of unexpected results. The particle sizes of the pigments are optimizable as they directly affect the opacity of the light reflecting layer. As such, they are optimizable. It would have been obvious to one of ordinary skill in the art to make the light reflecting layer with the limitations of the particle size of the pigments since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. (*In re Boesch*, 617 USPQ 215 (CCPA 1980) *and Slaney*, 205 USPQ 215).

***Response to Arguments***

5. Rejection made under 35 U.S.C. 103(a) as being unpatentable over Hirose et al. (U.S. 6,203,899) and EP 1048480 A1 have been combined. Arguments of these rejections have been considered but are unpersuasive. Applicant argues Hirose does not teach or suggest the claimed invention because it does not teach the size relationship as defined in claims 1 and 11. Neither reference shows that the recording medium has the same particle sizes as instantly claimed. However, such particle sizes are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the particle sizes, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. particle sizes) fails to render claims patentable in the absence

of unexpected results. The particle sizes of the pigments are optimizable as they directly affect the opacity of the light reflecting layer. As such, they are optimizable. It would have been obvious to one of ordinary skill in the art to make the light reflecting layer with the limitations of the particle size of the pigments since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. (*In re Boesch*, 617 USPQ 215 (CCPA 1980) *and Slaney*, 205 USPQ 215). Applicant has not shown that Hirose or EP '480 cannot show this feature or the criticality of the particle size of the pigments.

## ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is 571-272-1522. The examiner can normally be reached on Monday through Friday 9:00 AM – 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence D. Ferguson
Examiner
Art Unit 1774

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700